



THE DNA WARRIOR

Dr.Lalji Singh : A Life Unlocking India's Genetic Secrets



THE YEAR WAS 1947, KALWARI VILLAGE IN JAUNPUR
FORTY DAYS BEFORE INDIA WON ITS FREEDOM,
A BOY WAS BORN AS THE NATION PREPARED TO RISE



WHILE LALJI'S FATHER TOILED IN FIELDS, HIS MOTHER
WAS THE FOUNDATION OF THE HOME



LALJI WAS A CURIOUS CHILD.
HE MADE SCIENCE HIS FRIEND

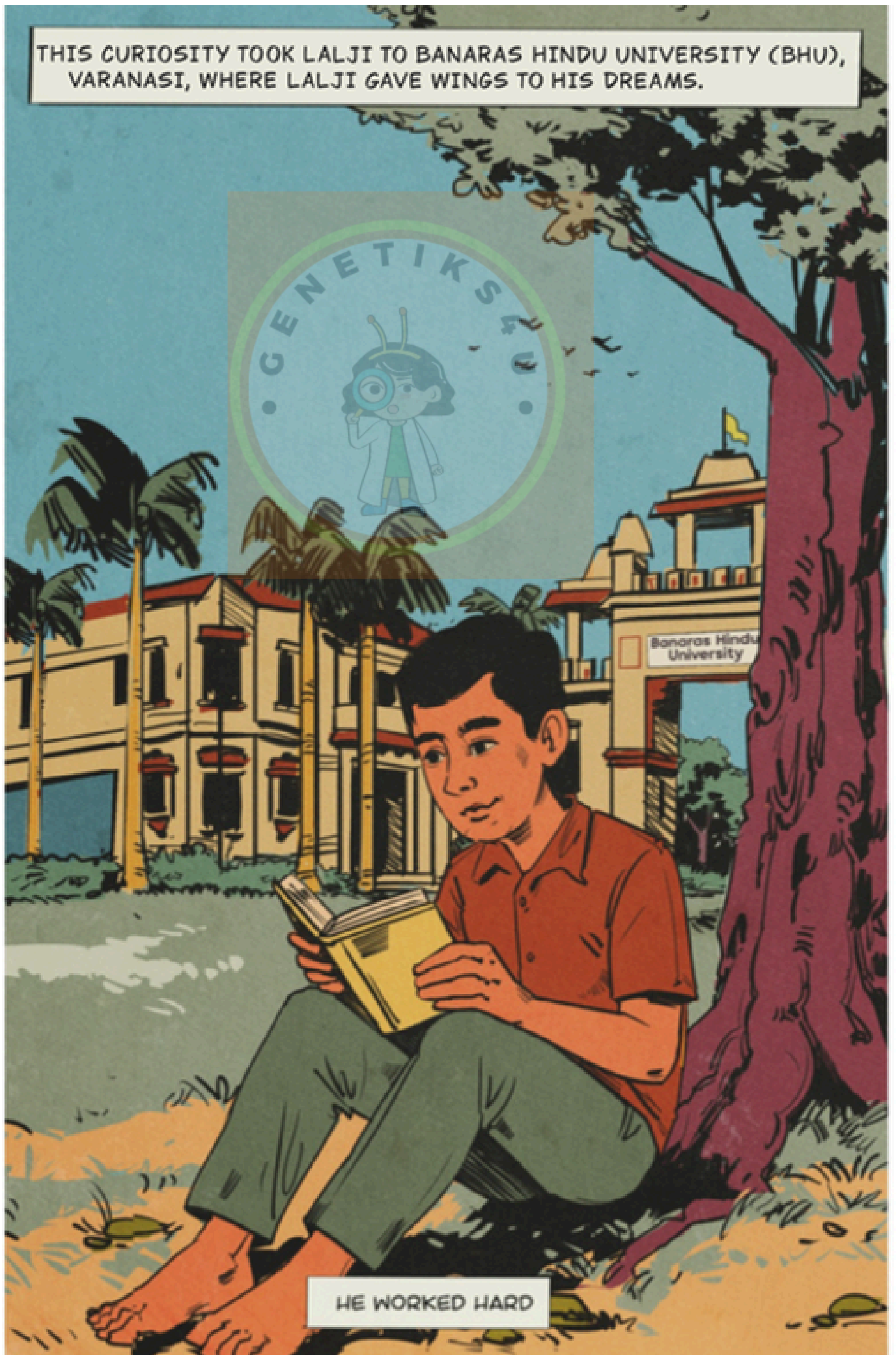
I WONDER IF SOMETHING IN THIS
VAST UNIVERSE CAN CHANGE
HUMAN LIFE.

LALJI'S TEACHERS RECOGNIZED
HIS CURIOSITY AND ENCOURAGED HIM

THIS IS YOUR PATH

WHAT IS THE BASIS
OF LIFE?
HOW TO REVEAL
NATURE'S SECRETS?

THIS CURIOSITY TOOK LALJI TO BANARAS HINDU UNIVERSITY (BHU),
VARANASI, WHERE LALJI GAVE WINGS TO HIS DREAMS.



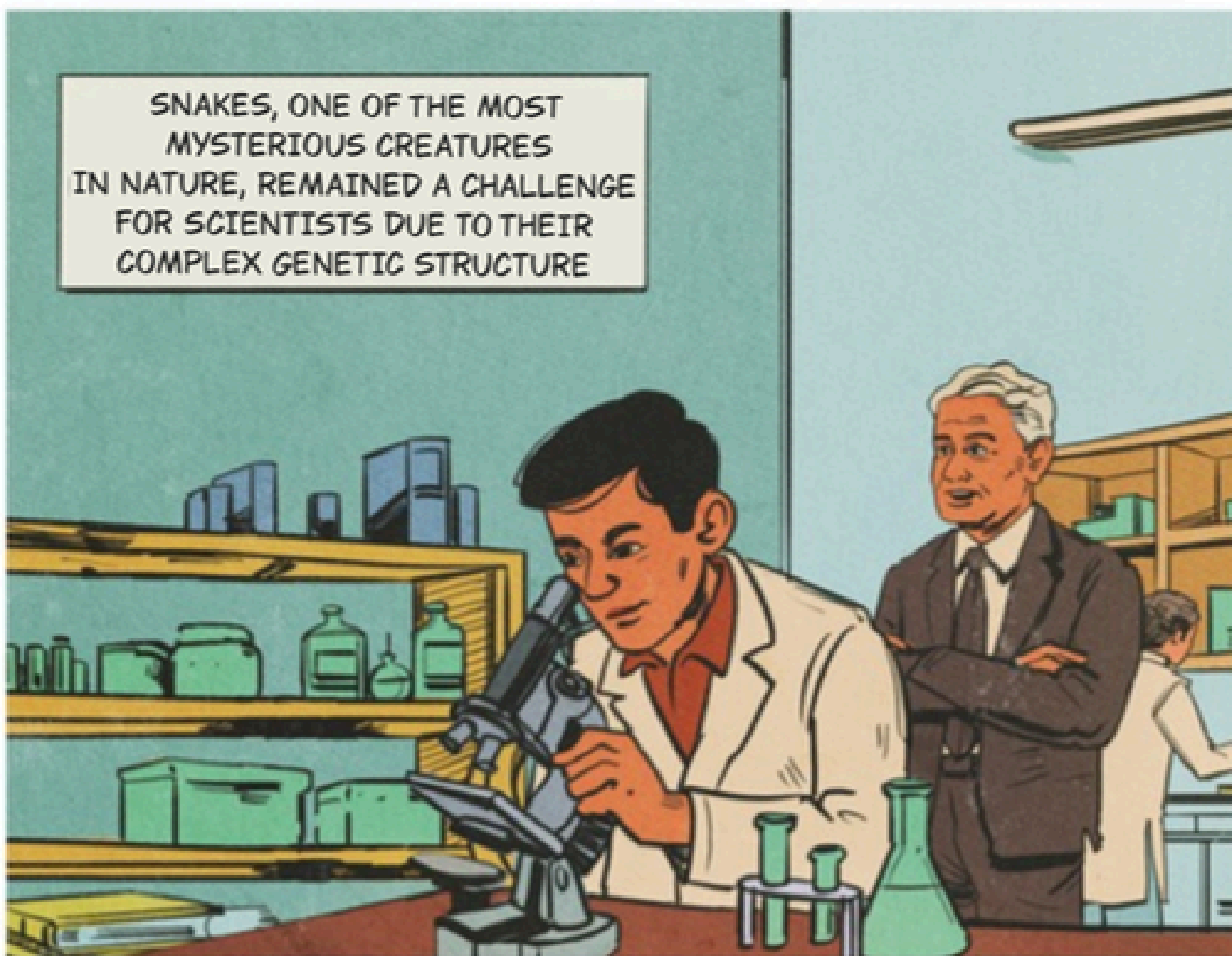
HE WORKED HARD

BHU: A New Chapter

AT BHU, LALJI MET PROFESSOR S.P. RAYCHAUDHURY, WHO WAS INDIA'S LEADING SCIENTIST IN THE FIELD OF CYTOGENETICS

LALJI, WHY DON'T YOU WORK ON*SEX CHROMOSOMES IN SNAKES? IT IS AN UNSOLVED PUZZLE.

SNAKES, ONE OF THE MOST MYSTERIOUS CREATURES IN NATURE, REMAINED A CHALLENGE FOR SCIENTISTS DUE TO THEIR COMPLEX GENETIC STRUCTURE

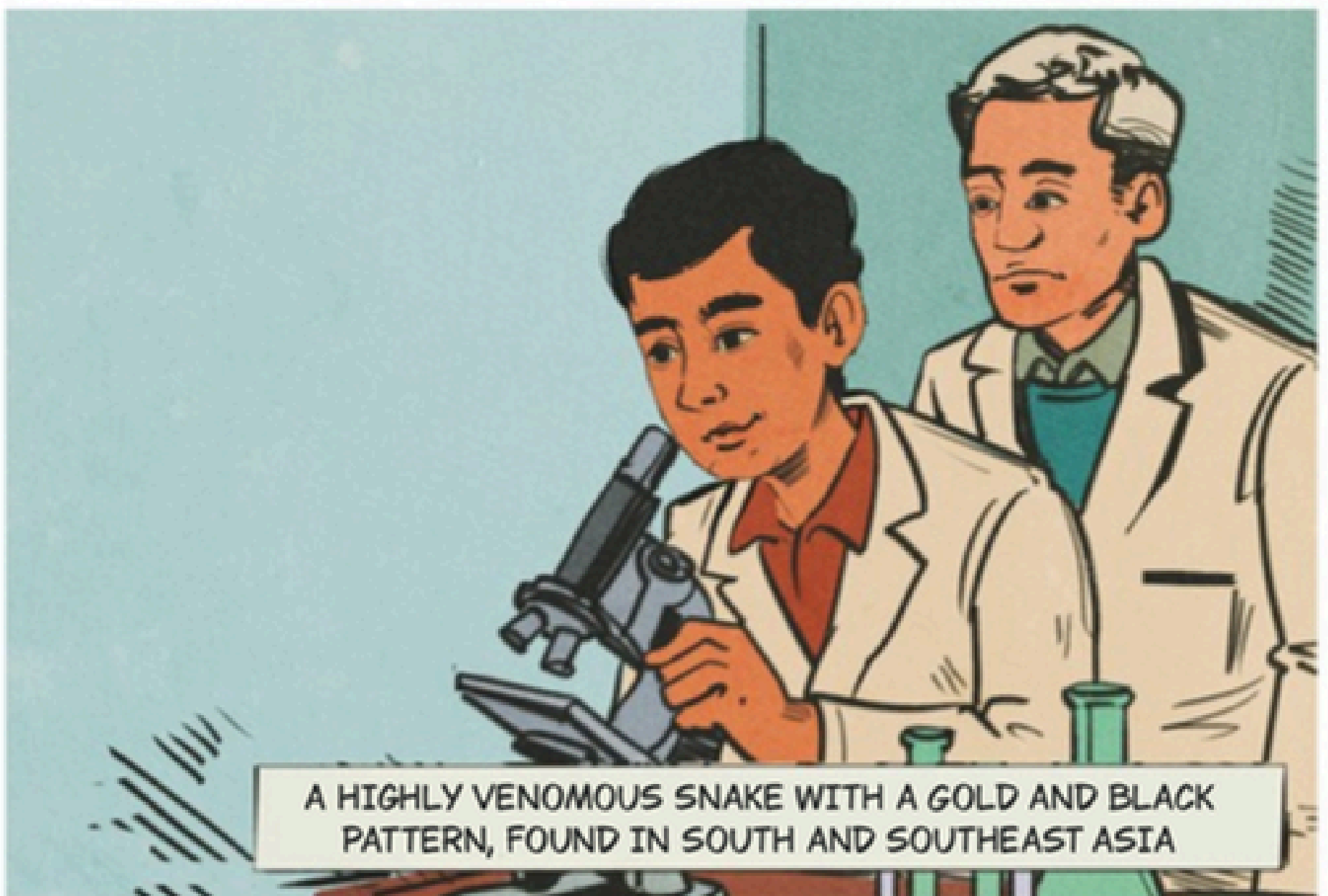


LALJI SUCCESSFULLY COMPLETED HIS PHD. HIS THESIS
'SEX CHROMOSOMES IN SNAKES' WAS A SCIENTIFIC MILESTONE



A Revolutionary Discovery

IN 1974, LALJI RECEIVED THE PRESTIGIOUS COMMONWEALTH FELLOWSHIP TO WORK WITH PROF. K.W. JONES AT THE UNIVERSITY OF EDINBURGH

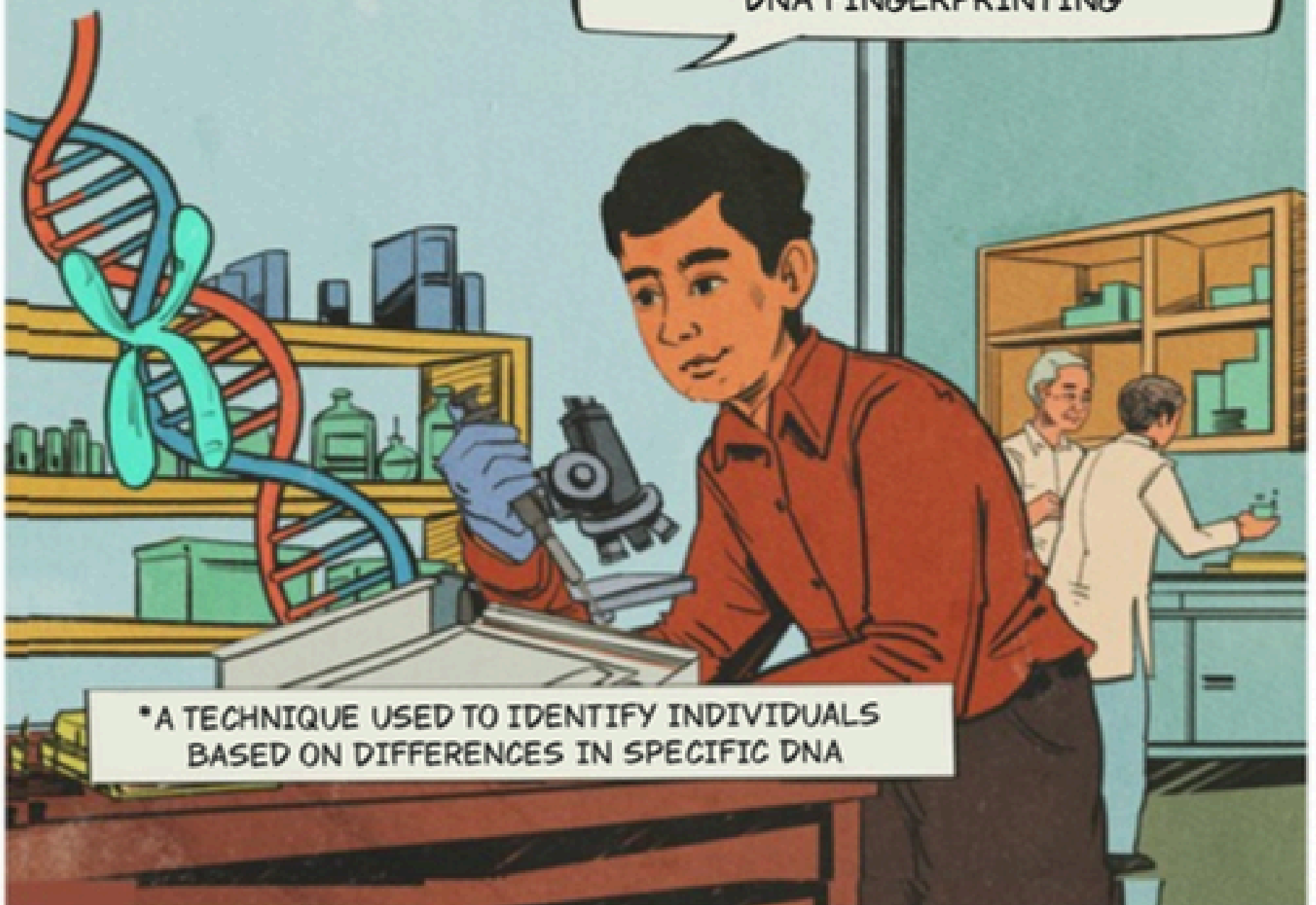


LALJI LEFT NO STONE UNTURNED TO UNDERSTAND THE STRUCTURE OF BKM.

AT THAT TIME, WHO COULD HAVE IMAGINED THAT THIS TINY DISCOVERY WOULD ONE DAY SHAKE THE WORLD OF CRIME



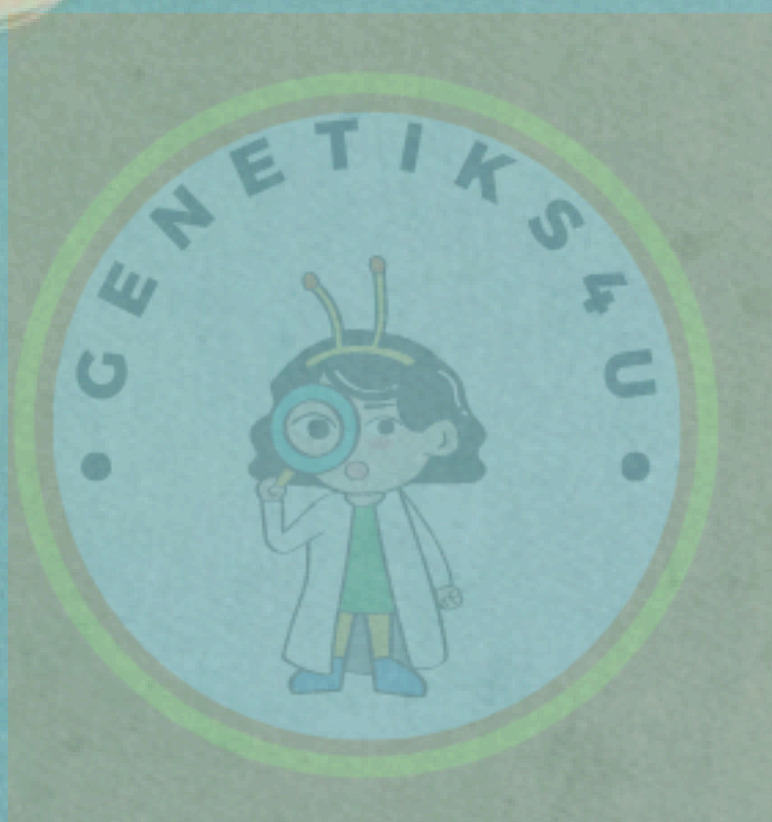
THIS BKM SATELLITE DNA (GATA REPEAT) CAN BE USED AS A PROBE IN
*DNA FINGERPRINTING



*A TECHNIQUE USED TO IDENTIFY INDIVIDUALS BASED ON DIFFERENCES IN SPECIFIC DNA

Return to India: Pursuing a Dream

IN 1987, DR. P.M. BHARGAVA, THE FOUNDING DIRECTOR OF THE CENTER FOR CELLULAR AND MOLECULAR BIOLOGY (CCMB),* HYDERABAD, INVITED LALJI TO RETURN TO INDIA.

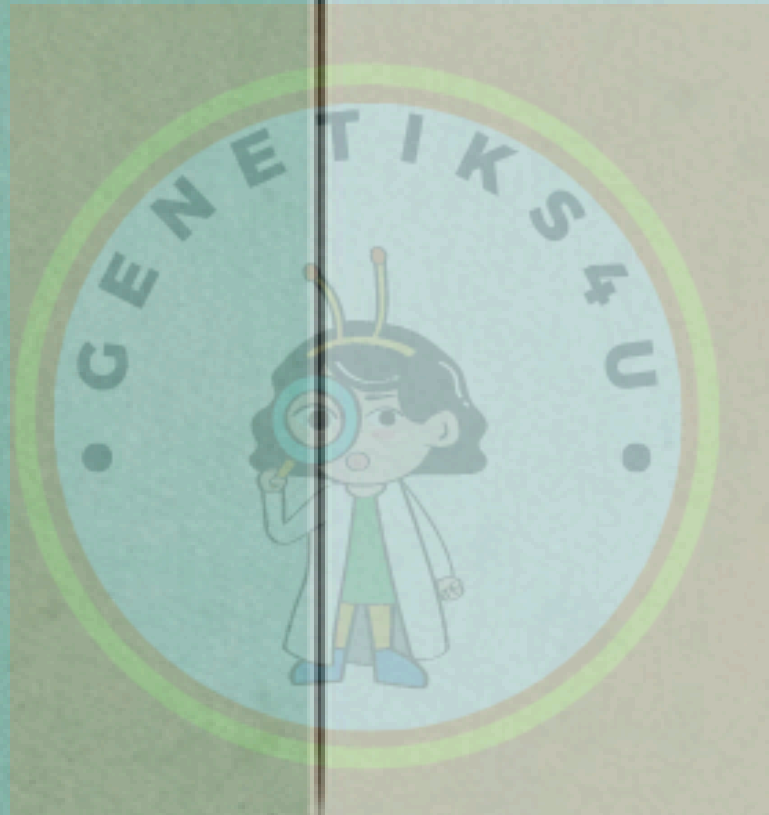


I HOPE THAT THIS RISK IS WORTH IT.
I WANT TO MAKE INDIA A DNA
FINGERPRINTING SUPERPOWER.

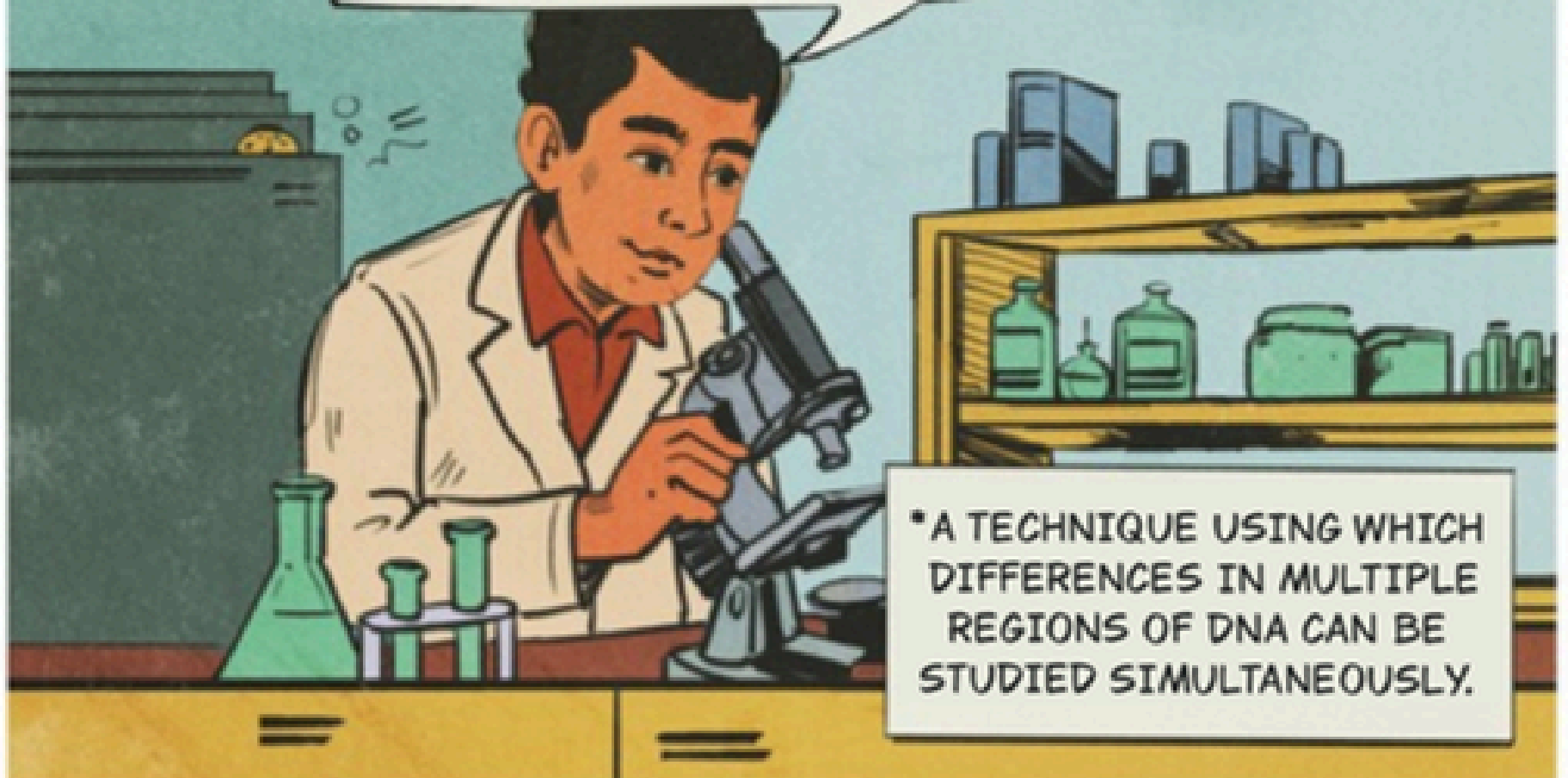


*CCMB IS A LEADING SCIENTIFIC INSTITUTION IN INDIA

IN HYDERABAD, THE CCMB LABS WERE STRUGGLING WITH A LACK OF RESOURCES AT THAT TIME.



THIS BKM PROBE WILL LAY THE FOUNDATION FOR THE FIRST INDIGENOUS MULTILOCUS DNA FINGERPRINTING TECHNOLOGY IN INDIA.

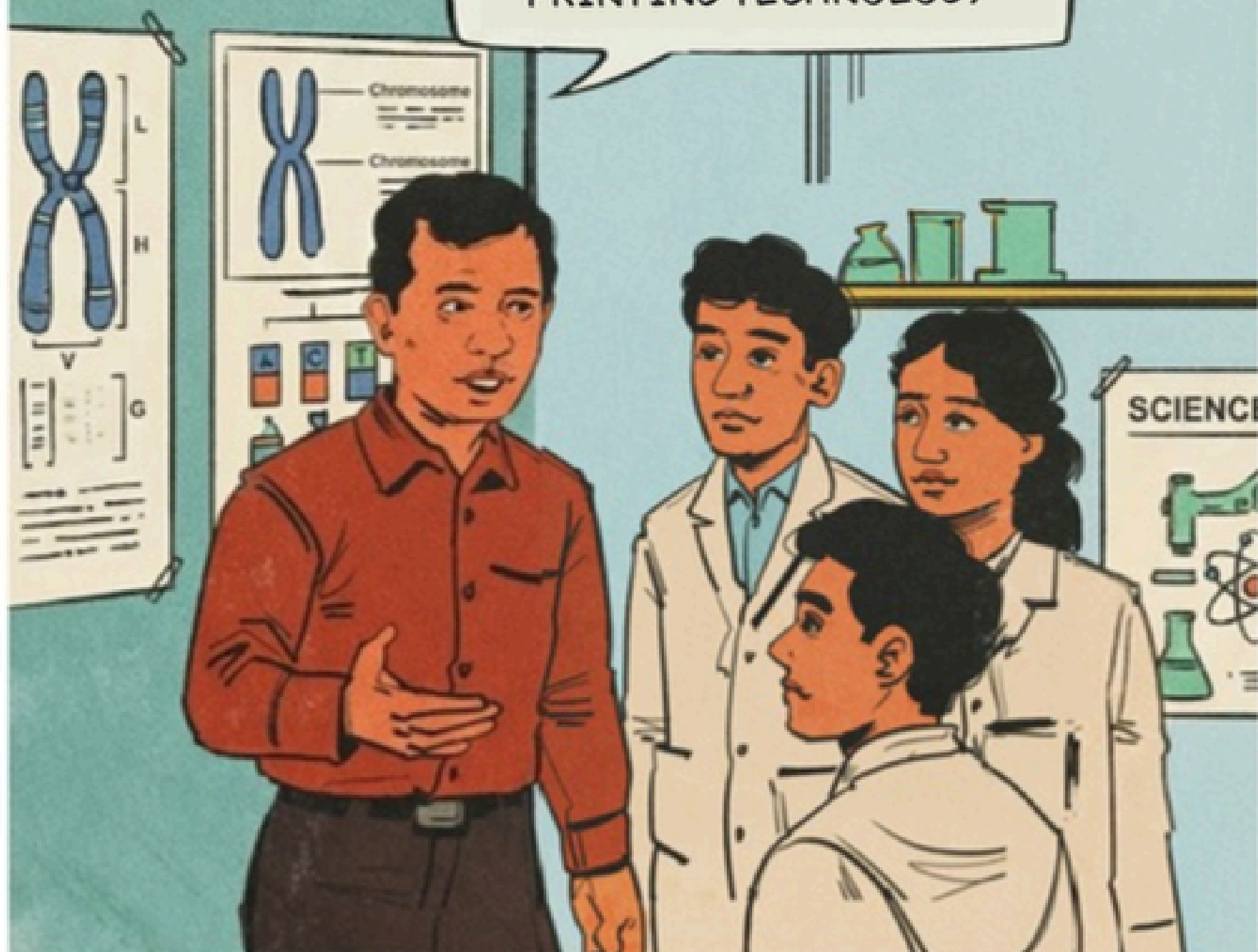


*A TECHNIQUE USING WHICH DIFFERENCES IN MULTIPLE REGIONS OF DNA CAN BE STUDIED SIMULTANEOUSLY.

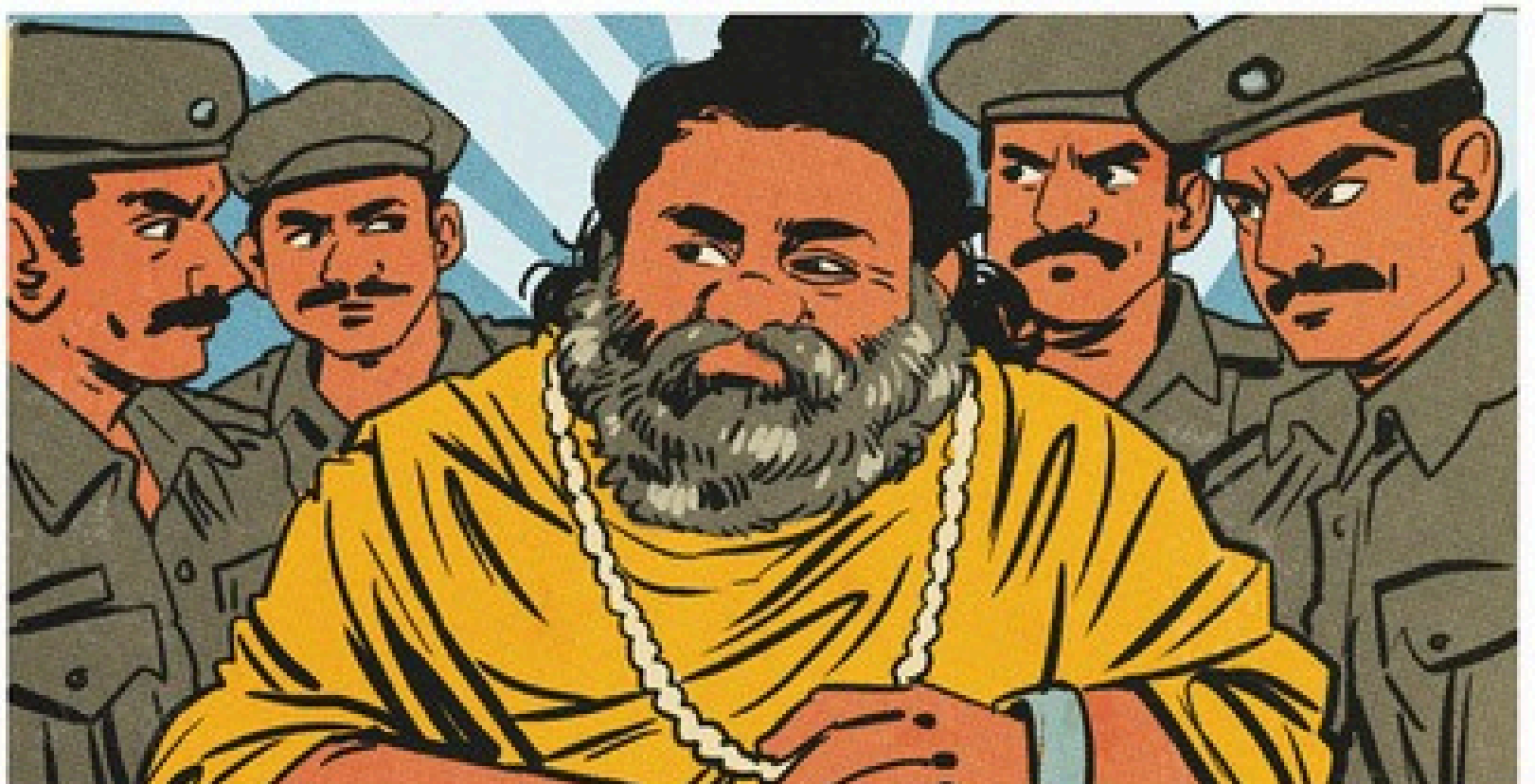
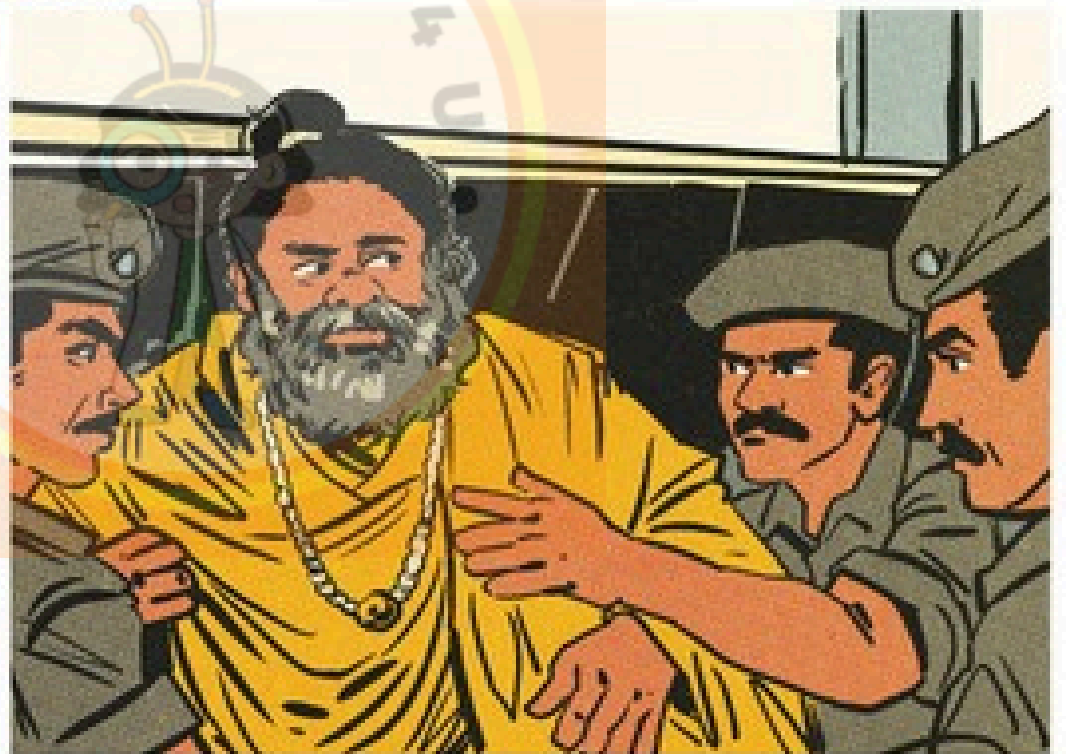
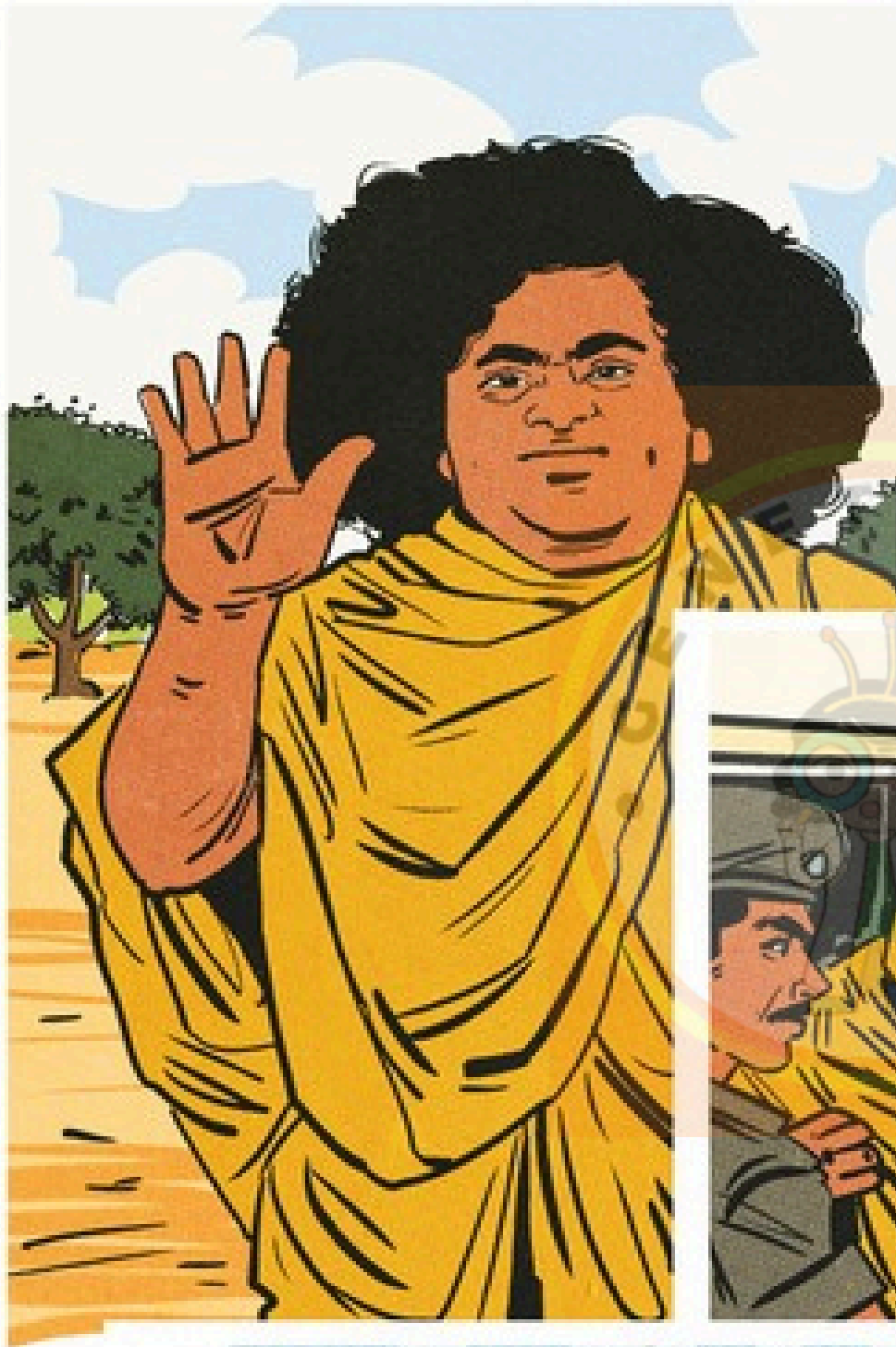
LALJI'S WORK MADE INDIA THE THIRD COUNTRY IN THE WORLD
TO DEVELOP THIS TECHNOLOGY INDIGENOUSLY.
YET EVERY DAY WAS A NEW BATTLE.



WE HAVE JUST ONE GOAL,
USING THIS DNA FINGER-
PRINTING TECHNOLOGY



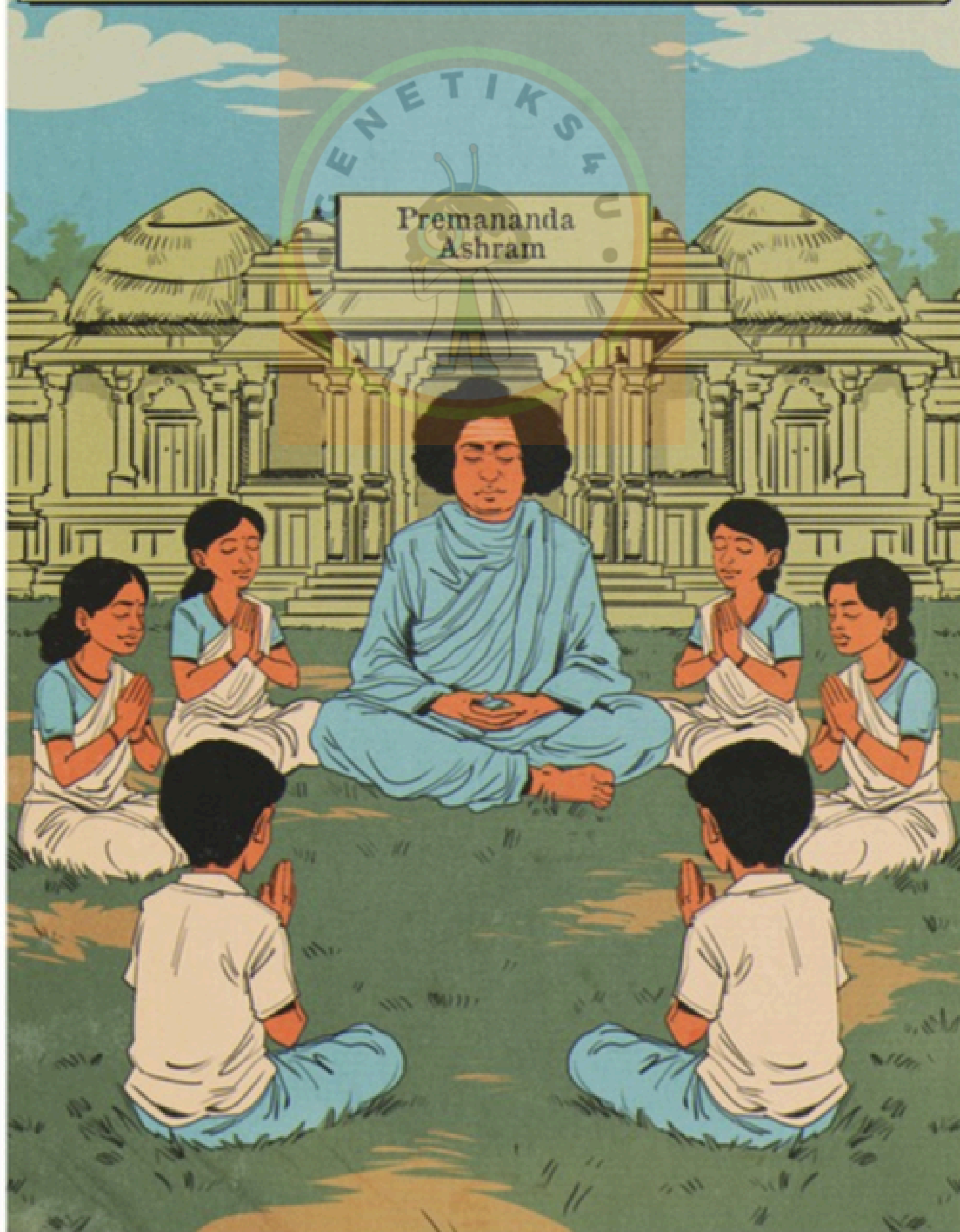
THE PREMANANDA TRIAL



This story contains references to child abuse, exploitation, and institutional harm. Reader discretion is advised

Swami Premananda Case—The Battle for Justice

IN THE 1990S, SWAMI PREMANANDA'S ASHRAM IN TIRUCHIRAPPALLI, TAMIL NADU WAS CONSIDERED A HOLY PLACE. A SELF-PROCLAIMED SADHU FROM SRI LANKA, PREMANANDA HAD WON THE TRUST OF THE PEOPLE BY GIVING SHELTER TO ORPHAN GIRLS AND REFUGEE FAMILIES FROM SRI LANKA. HOWEVER, THE SEEMINGLY PEACEFUL ASHRAM WAS HIDING DARK TRUTHS.



EVENTUALLY, SOME COURAGEOUS GIRLS ESCAPED THE ASHRAM AND MADE THEIR WAY TO CHENNAI. THEY TOLD THE PRESS ABOUT PREMANANDA'S WRONG DOINGS AND THE INVESTIGATIONS STARTED.

IS IT TRUE WHAT WE HEARD?

COULD BE. BUT WHAT IS THE PROOF?

NO WAY, SWAMIJI COULD NEVER DO THIS.

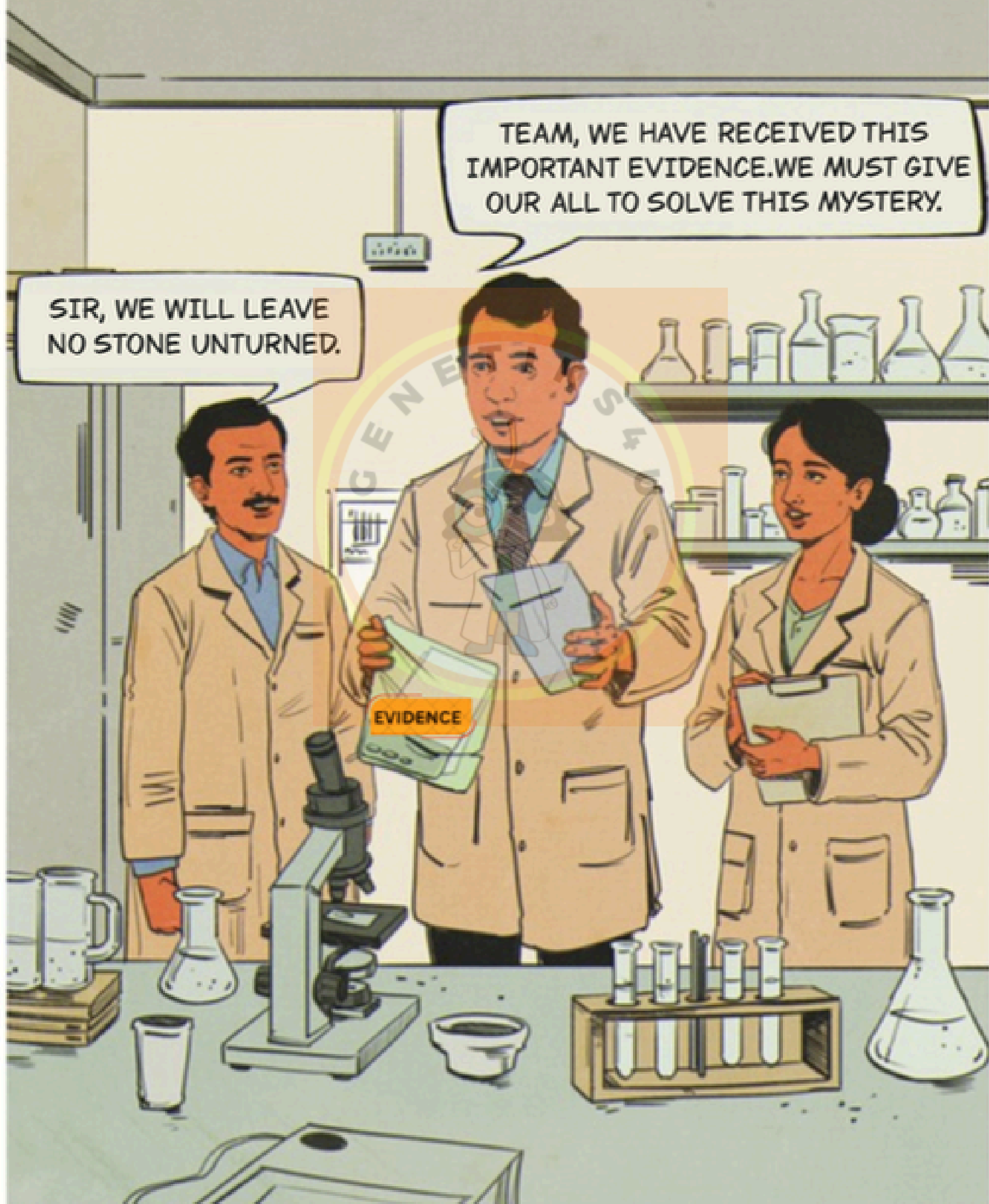


IN 1995, A TURNING POINT CAME. THE POLICE GOT A SAMPLE OF THE ABORTED FOETUS OF ARULJOTHI. THE ALLEGATION WAS THAT PREMANANDA HAD RAPED ARULJOTHI. AFTER WHAT WAS THE PROOF?

TEAM, WE HAVE RECEIVED THIS IMPORTANT EVIDENCE. WE MUST GIVE OUR ALL TO SOLVE THIS MYSTERY.

SIR, WE WILL LEAVE NO STONE UNTURNED.

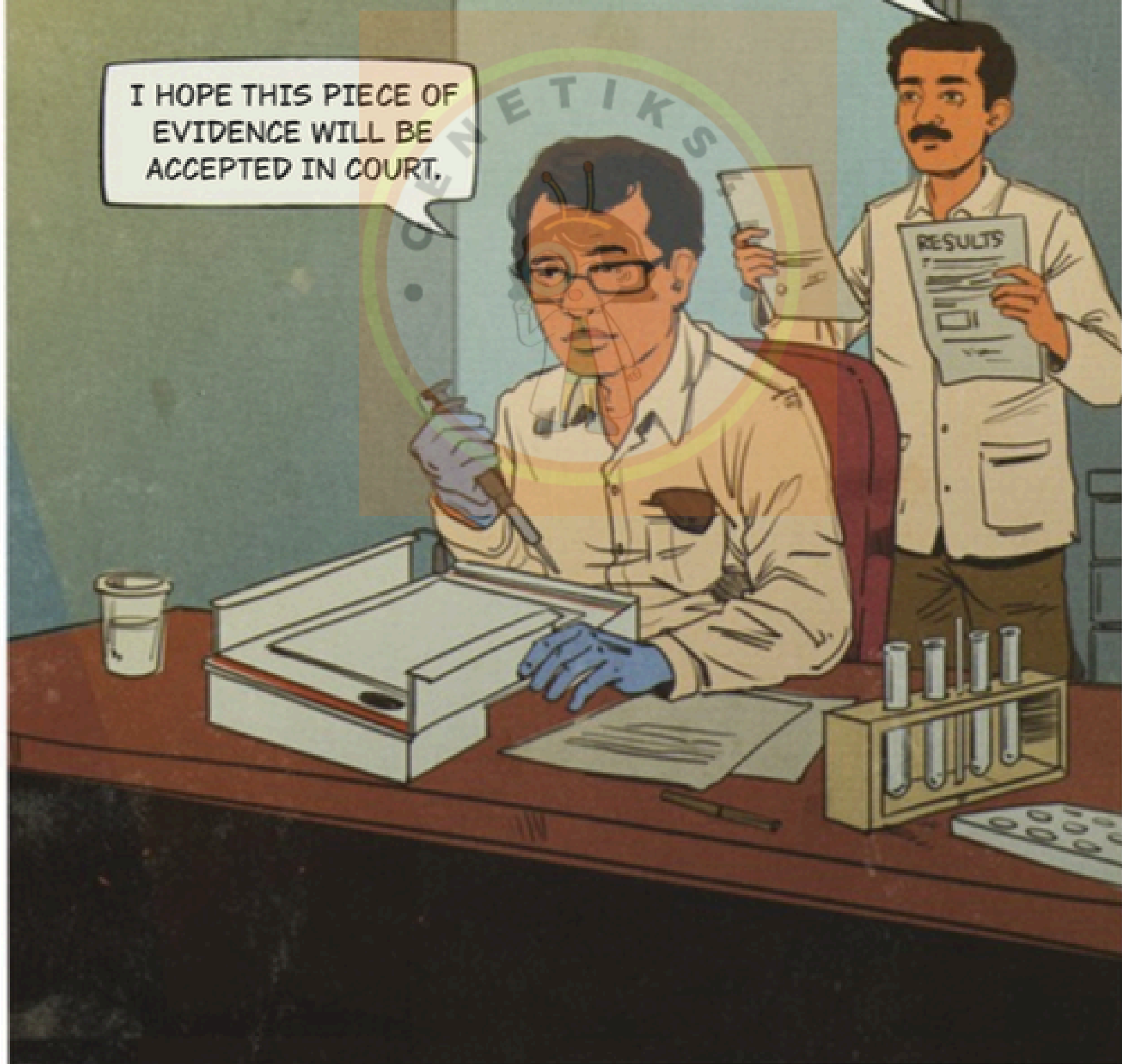
EVIDENCE



THERE WAS A STORM IN THE LABORATORY. DR. LALJI SINGH AND COLLEAGUES WORKED DAY AND NIGHT.

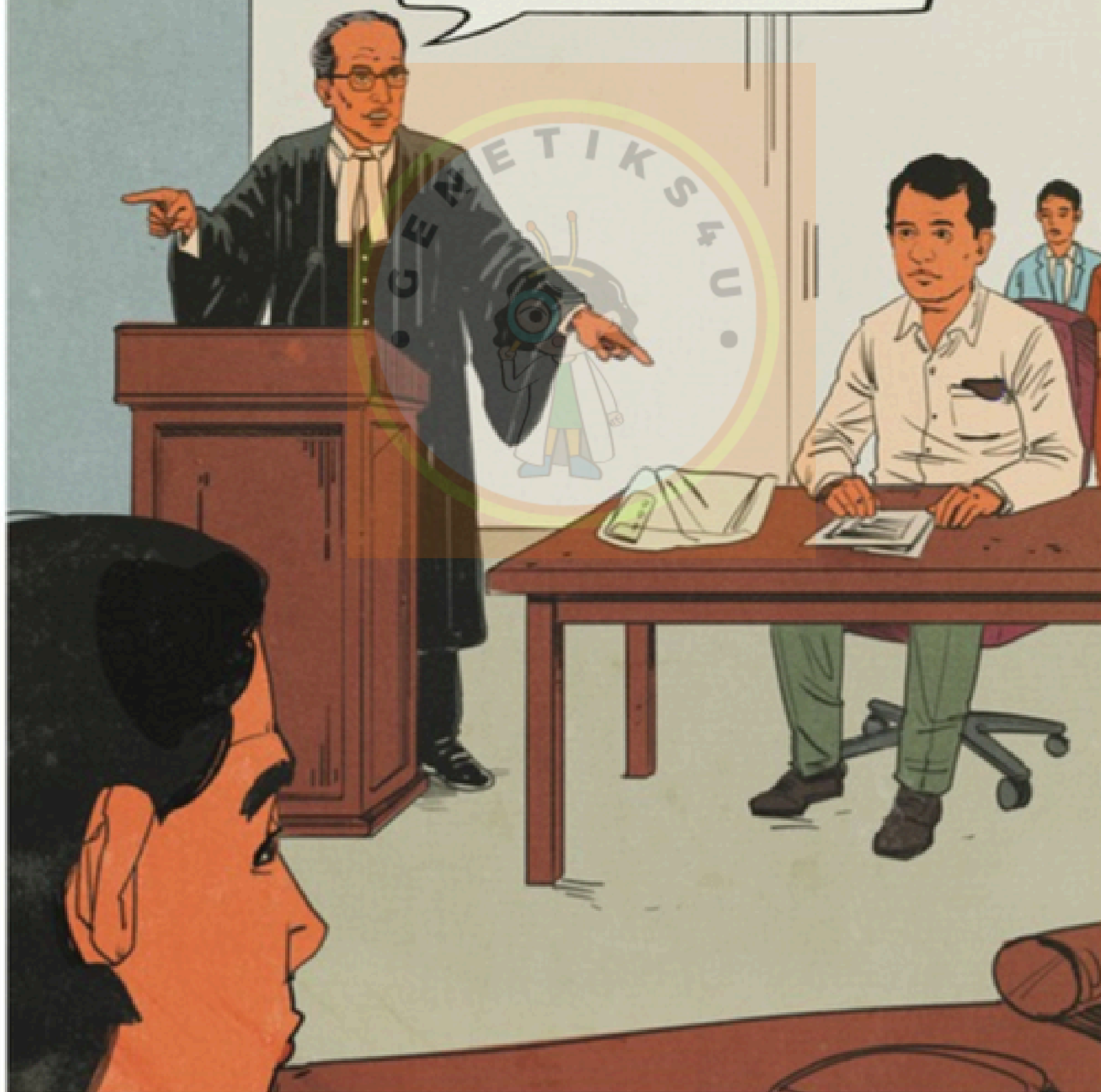
SIR, IT IS MATCH. THE DNA OF FOETUS MATCHES THAT OF PREMANANDA

I HOPE THIS PIECE OF EVIDENCE WILL BE ACCEPTED IN COURT.



THIS WAS JUST THE BEGINNING. THE DEFENCE LAWYERS GOT THE FOETUS EXAMINED BY A SUPPOSED EXPERT FROM BRITAIN, DR. WILSON WALL.

WE DON'T ACCEPT THIS. DR. WALL HAS FOUND NO MATCH BETWEEN THE SAMPLES.



LALJI SINGH FOUND THAT DR. WALL WAS WRONG.

YOUR HONOUR, DR. WALL'S CLAIMS
HAVE NO BASIS. WE HAVE
RECHECKED THE EVIDENCE
CAREFULLY AND HAVE
FOLLOWED INTERNATIONAL
PROTOCOLS.



THE JUDES ACCEPTED DR. SINGH'S EVIDENCE. SWAMI PREMANANDA WAS CONVICTED ON ALL COUNTS. HE WAS SENTENCED TO DOUBLE LIFE IMPRISONMENT, WITHOUT ANY LENIENCY. THIS WAS A VICTORY FOR DR. SINGH AND FOR THE TECHNIQUE OF DNA FINGERPRINTING IN SOLVING COMPLEX CASES. DNA FINGERPRINTING SOON BEGAN TO BE USED IN PATERNITY DISPUTES, IDENTIFICATION OF DISASTER VICTIMS, AND IN WILDLIFE CONSERVATION.



DR. LALJI SINGH WAS INSTRUMENTAL IN TAKING MANY INSTITUTIONS ACROSS INDIA TO NEW HEIGHTS. HE WAS ALSO KEY TO THE ESTABLISHMENT OF NEW INSTITUTIONS.

THE TRAINING PROGRAMME FOR MASTER'S STUDENTS WILL GIVE STUDENTS AN OPPORTUNITY TO LEARN THE BASICS OF RESEARCH.

**Dr Lalji Singh's
Vision and
revolutionary
initiatives**

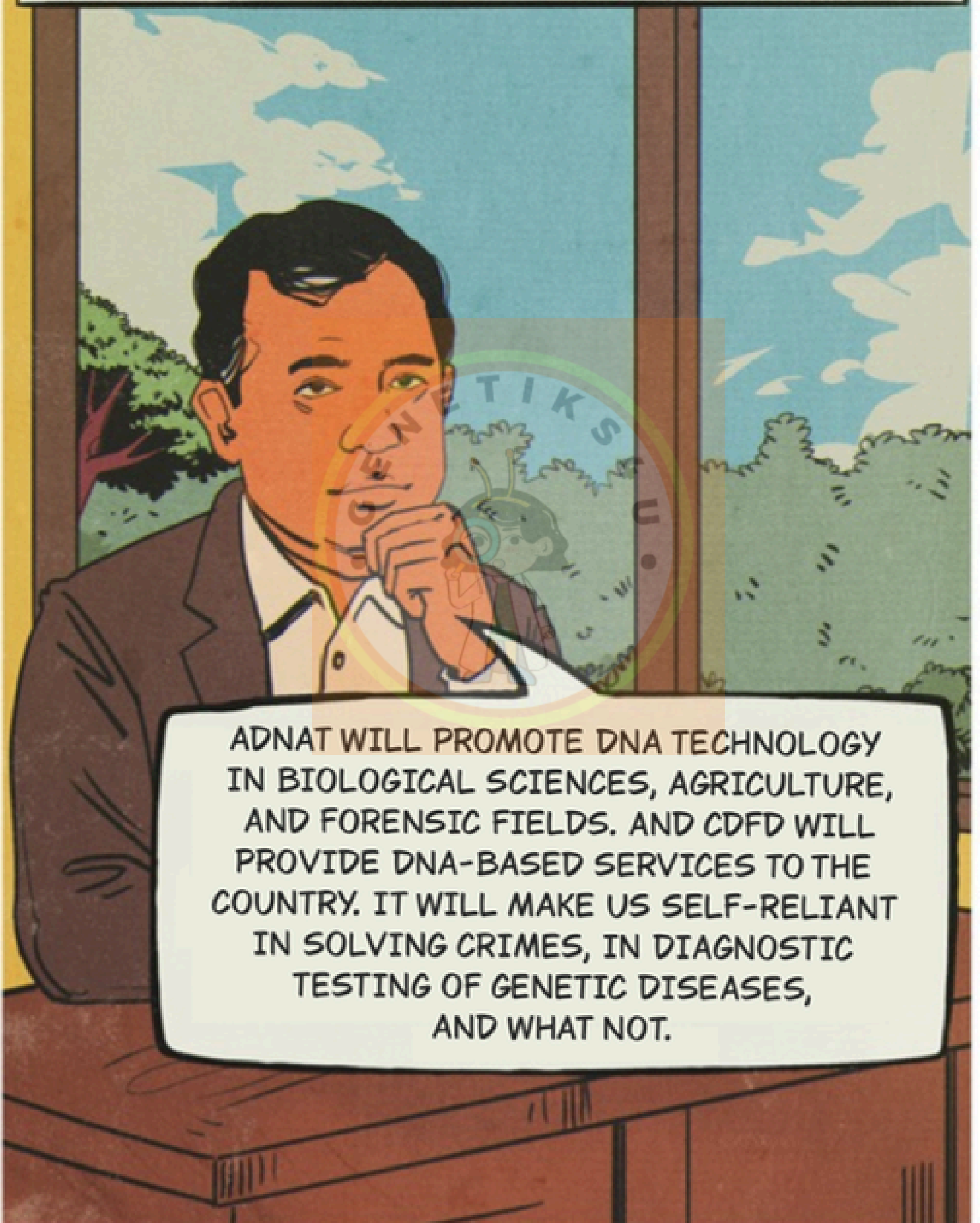
LALJI ALSO SERVED AS THE VICE CHANCELLOR OF
BHU FROM 2011 TO 2014. HE WAS DIRECTOR
OF CCMB 1998-2009.

DR. SINGH HAS GIVEN BHU
A NEW IDENTITY AND ALL THESE
AMAZING FACILITIES.

HIS POLICIES HAVE GIVEN
STUDENTS FROM UNRESERVED AN
OPPORTUNITY TO PURSUE
HIGHER EDUCATION.



IN 1993, LALJI FOUNDED THE 'ASSOCIATION FOR PROMOTION OF DNA FINGERPRINTING AND OTHER DNA TECHNOLOGIES' (ADNAT). AND LATER THE CENTRE FOR DNA FINGERPRINTING AND DIAGNOSTICS (CDFD) IN 1995 AND THE GENOME FOUNDATION IN 2004.



ADNAT WILL PROMOTE DNA TECHNOLOGY IN BIOLOGICAL SCIENCES, AGRICULTURE, AND FORENSIC FIELDS. AND CDFD WILL PROVIDE DNA-BASED SERVICES TO THE COUNTRY. IT WILL MAKE US SELF-RELIANT IN SOLVING CRIMES, IN DIAGNOSTIC TESTING OF GENETIC DISEASES, AND WHAT NOT.

IN 1998, DR. SINGH ESTABLISHED "LaCONES" (LABORATORY FOR THE CONSERVATION OF ENDANGERED SPECIES) IN HYDERABAD. BUILT IN COLLABORATION WITH THE CZA, GOVERNMENT OF ANDHRA PRADESH, AND DBT. IN 2007, THIS LABORATORY WAS DEDICATED TO THE NATION BY THE THEN PRESIDENT DR. A.P.J. ABDUL KALAM.

LaCONES IS INDIA'S ONLY DEDICATED RESEARCH FACILITY FOR THE CONSERVATION OF ENDANGERED ANIMALS.

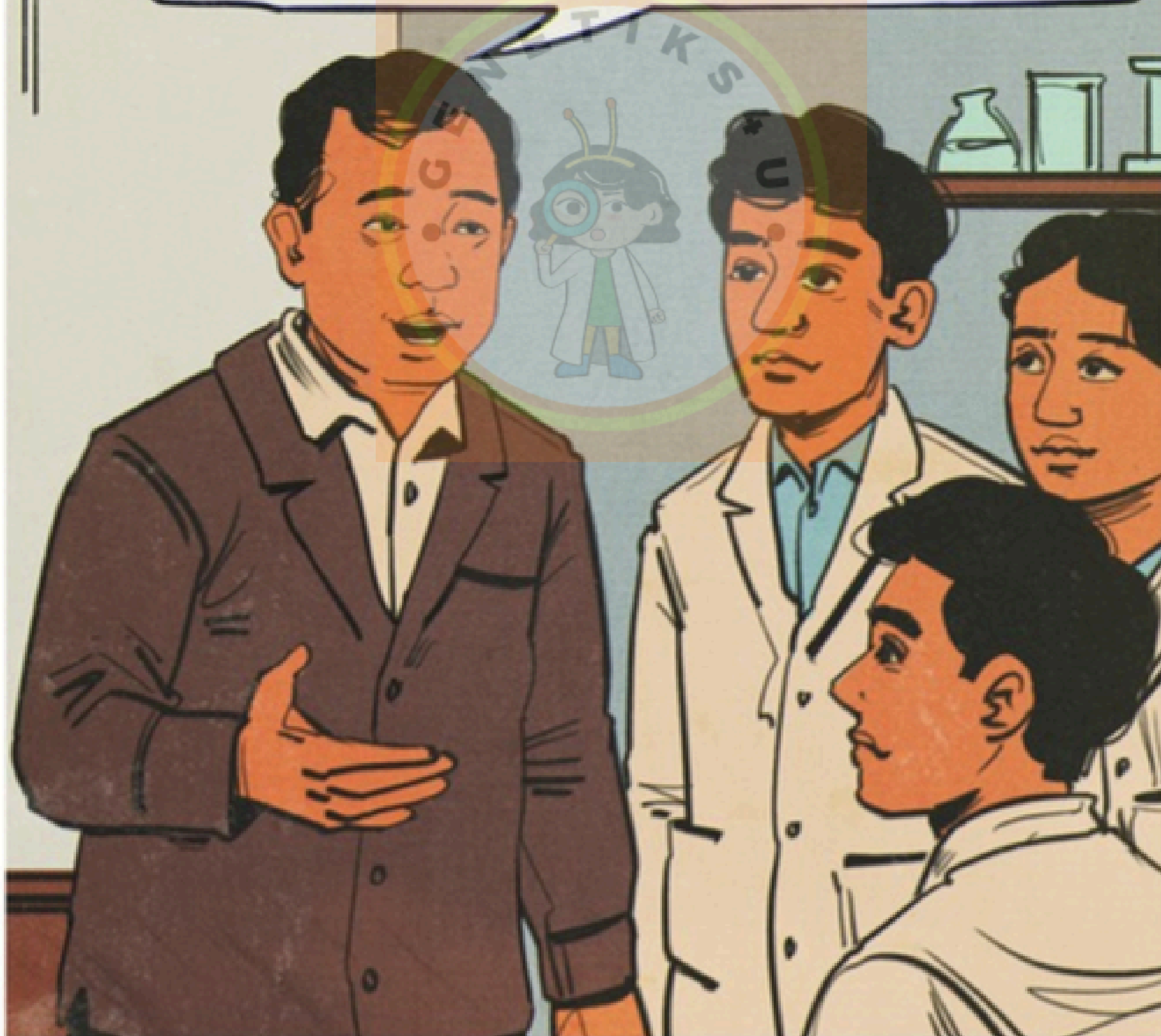


IT TRULY SHOWS HOW DEEPLY DR. SINGH CARES FOR NATURE AND BIODIVERSITY

AMAZING. A POWERFUL SCIENTIFIC WEAPON AGAINST POACHING AND WILDLIFE SMUGGLING

NOT JUST THE WORLD OF JUSTICE, DR. SINGH WAS A PIONEER IN THE STUDY OF ANCIENT DNA IN INDIA. HIS RESEARCH HELPED UNDERSTAND THE GENETIC DIVERSITY OF INDIA. FROM THE TRIBES OF THE ANDAMANS TO THE VALLEYS OF THE HIMALAYAS, CCMB RECORDED THE STORY OF EVERY CORNER OF INDIA IN THE LANGUAGE OF DNA.

GREAT WORK, TEAM. OUR WORK HAS UNRAVELLED THE MYSTERIES OF HISTORICAL SITES AND THE ORIGIN OF MODERN HUMANS IN THE INDIAN SUB-CONTINENT.



DR. SINGH ALWAYS HAD HIS EYES ON THE FUTURE. HE USED TO SAY, "SCIENCE IS THE TORCH THAT TURNS DARKNESS INTO LIGHT." THESE WORDS HAVE INSPIRED HUNDREDS OF STUDENTS AND SHOWED THAT SCIENCE HAS THE POWER TO CHANGE THE SOCIETY.



An Immortal Legacy



WHILE DR LALJI SINGH IS NO LONGER WITH US, HIS LEGACY LIVES IN EVERY STUDENT THAT HE TRAINED. HIS LABORATORIES WERE NOT JUST CENTRES OF SCIENTIFIC RESEARCH; THEY WERE NURSERIES OF DREAMS WHERE EVERY STUDENT GOT A CHANCE TO SPREAD THEIR WINGS. HE WAS A SCIENTIST WHO NOT ONLY UNDERSTOOD THE LANGUAGE OF DNA, BUT USED IT FOR THE SERVICE OF SOCIETY. MAY THE TORCH OF SCIENCE KEEP BURNING.

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